Indiana Department of Environmental Management
Office of Air Quality
Indianapolis, IN

Subject: Exceptional Events Flagging for Wildfire Event

Parameter: $PM_{2.5}$

Sites: Jeffersonville and New Albany

Dates: August 4, 2004

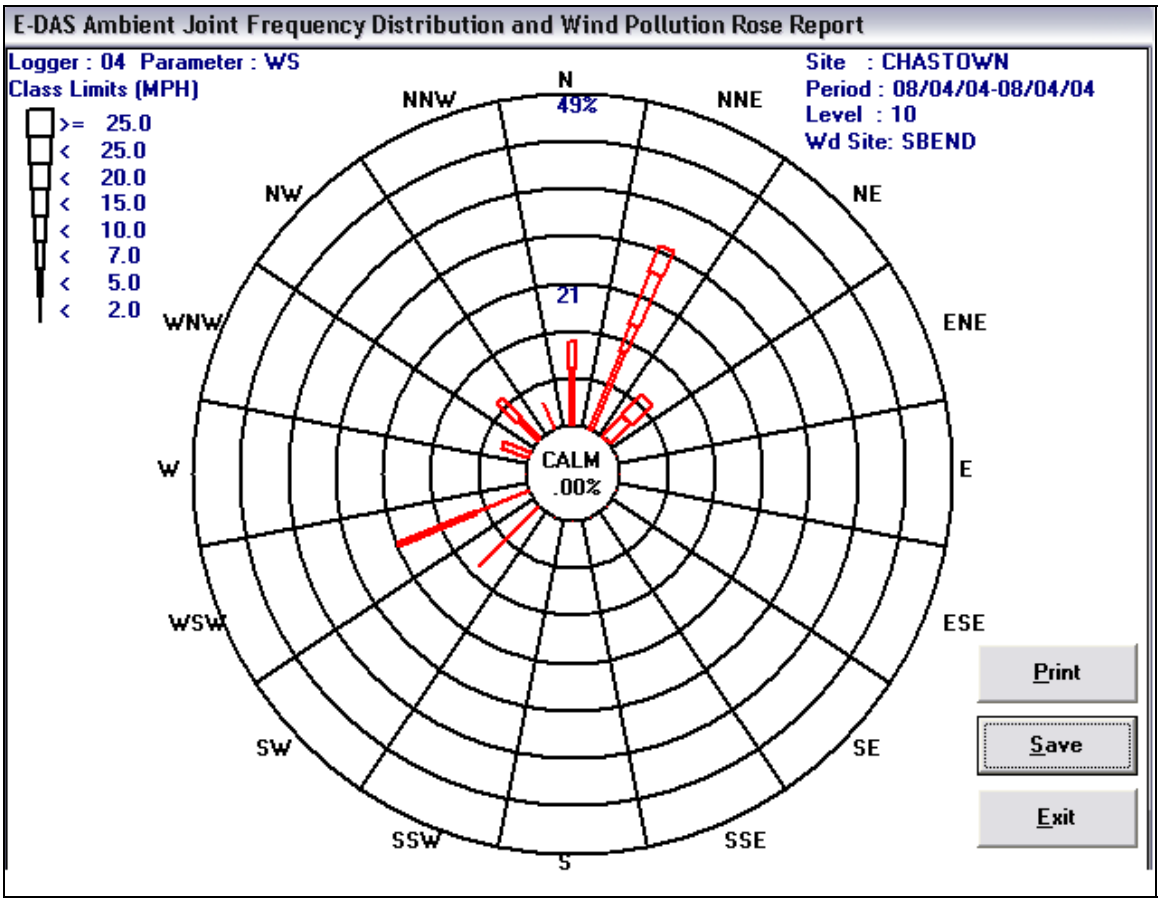
Reason: Smoke from wildfires occurring some distance from an area can affect the $PM_{2.5}$ levels measured at a particular site. In late July and early August 2004 wildfires occurred in the Northwest. From August 2 to August 4 the air quality in the Jeffersonville and New Albany areas was affected. $PM_{2.5}$ values were 43.6 ug/m^3 and 38.1 ug/m3 respectively on August 4. Before and after this time period values ranged from 10 ug/m^3 to 22 ug/m^3.

Data: Table 1 shows daily FRM averages prior to, during, and after the event. The Wind Rose indicates the local conditions on August 4 which correspond with the channeling and recirculation of the smoke plume as evidenced by the backward trajectory modeling from NOAA.

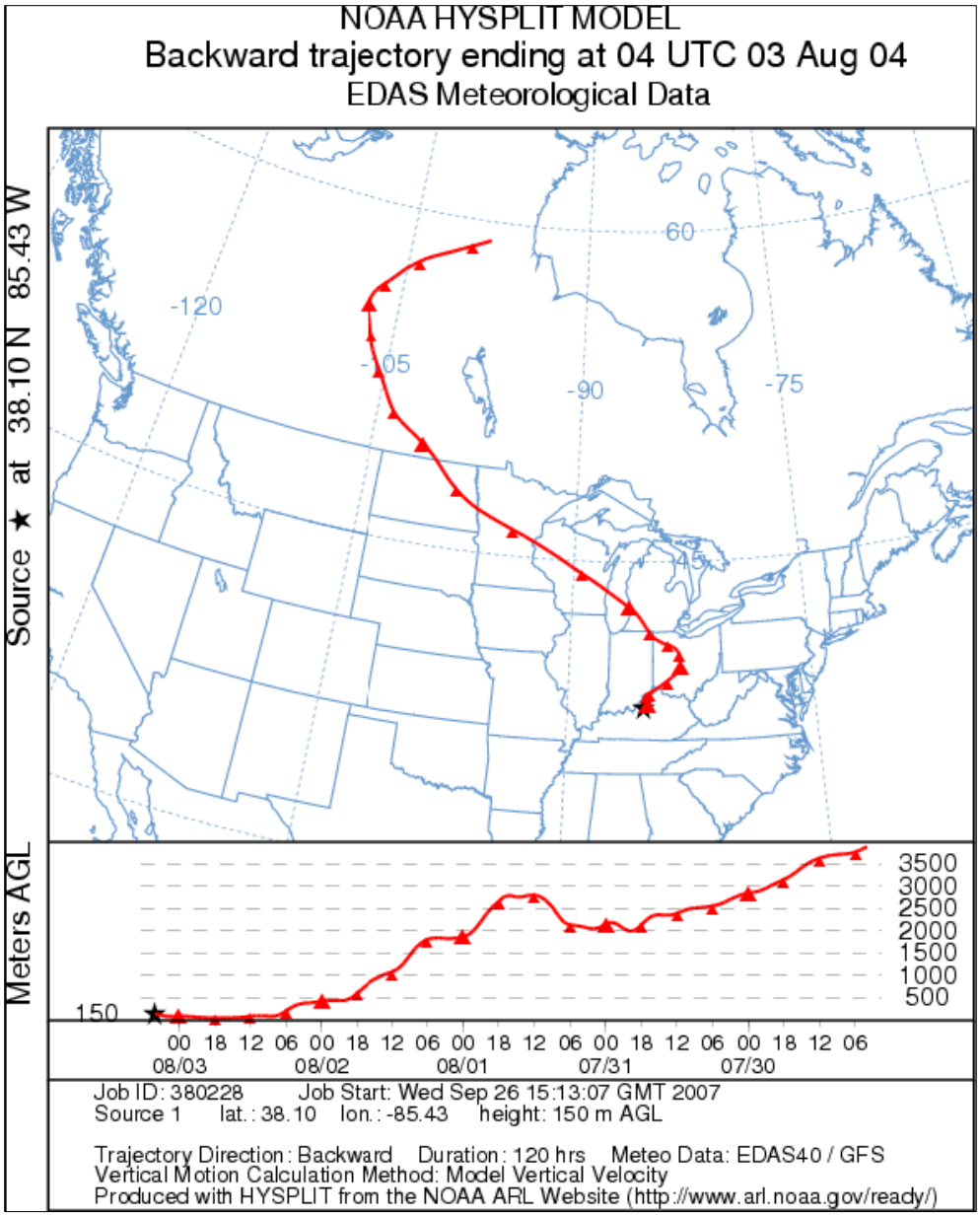
Maps: Maps from NOAA Satellite and Information Services show the Back trajectory model and smoke plume over the Jeffersonville/New Albany Area on August 2-4.

Table 1
FRM $PM_{2.5}$ 24-hour Averages

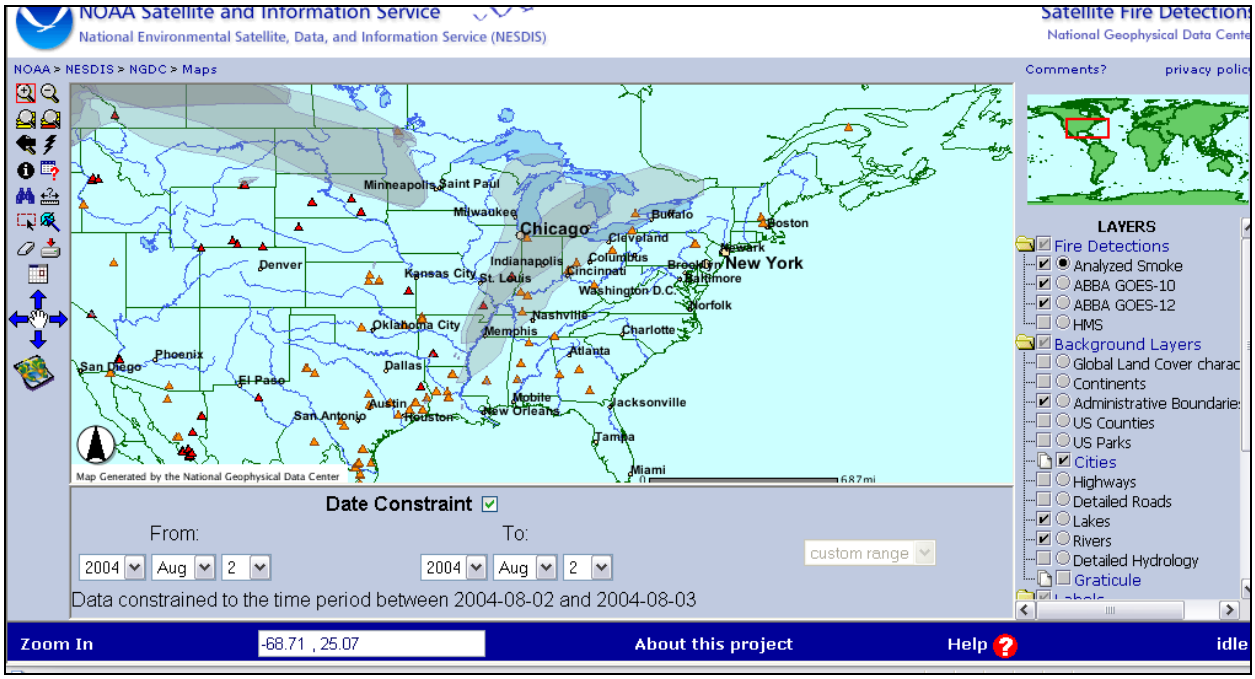
Date	New Albany 18-043-1004	Jeffersonville 18-019-0006
8/1/2004	18.2	22.0
8/4/2004	**38.1**	**43.6**
8/7/2004	10.6	13.0



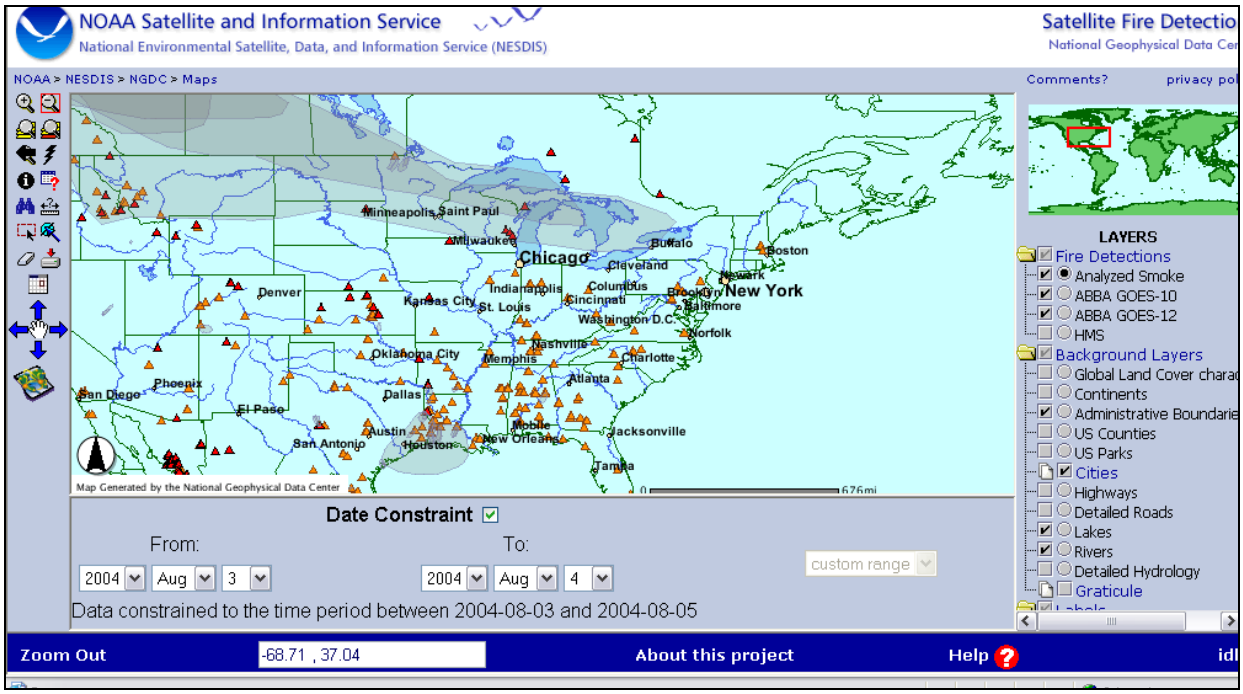
Wind rose from 08/04/04 shows the prevailing winds to be from the NNE, the primary direction of the smoke plume on that day.



Back Trajectory modeling for the five (5) days prior to the 08/04/04 event



NOAA smoke plume model for August 2, 2004 with impacts on Jeffersonville and New Albany.



NOAA smoke plume model for August 3-4, 2004*

*Map does not clearly indicate the plume due to sporadic rainfall that occurred during the day. However, continuous PM measurements from Louisville Metro Pollution Control District indicate the plume did not fully dissipate until 2200 on 8/4/04.